

REMARKS

Reconsideration of the application is requested.

Claims 15-50 remain in the application. Claims 15-50 are subject to examination. Claims 15 and 32 have been amended.

Claim 15 has been amended to more clearly specify that the filter element includes a printed circuit board. Support for the changes is inherent in the claim as previously presented.

Claim 32 has been amended to specify that the filter element includes a printed circuit board. Claim 32 has also been amended to specify that said retention area or said cover spaces said resonator away from said printed circuit board and away from said contacting structure. Support for the changes can be found by referring to Fig. 5, for example.

Under the heading "Claim Rejections – 35 USC § 102" on page 2 of the above-identified Office Action, claims 15, 18, 19, 32, 35, 36, and 50 have been rejected as being fully anticipated by U.S. Patent No. 6,127,907 to Furuya et al. under 35 U.S.C. § 102.

Furuya et al. teach a high frequency or microwave integrated circuit that includes a dielectric resonator mounted on a semiconductor substrate (column 1, lines 10-33). The semiconductor substrate is made of Al_2O_3 and has

dimensions of 10 mm by 4 mm, which corresponds to approximately 0.394 inches by 0.157 in inches (column 11, line 65 through column 12, line 11). The thickness of the semiconductor substrate in one embodiment is 0.3 mm, which approximately corresponds to 0.0118 inches (column 6, lines 46-47).

Claims 15 and 32 include a printed circuit board. Claim 15 additionally specifies that the printed circuit board is formed with a recess holding the resonator.

Furuya et al. do not teach a printed circuit board, but rather teach an integrated circuit including a semiconductor substrate. The specific teaching of an integrated circuit, the specific teaching of a semiconductor material, and the specific teaching of the very small dimensions of the semiconductor substrate in Furuya et al. are in stark contrast to a printed circuit board, such as that defined in claims 15 and 32.

Claim 32 additionally specifies that a retention area or a cover spaces the resonator away from the printed circuit board and away from the contacting structure. Furuya et al. do not teach such features. Furuya et al. do not teach anything that spaces the resonator away from the semiconductor substrate (which substrate the Examiner has attempted to equate with the printed circuit board defined in claim 15), and specifically do not teach a cover or retention area that provides such spacing. In contrast, Furuya et al. teach that the

resonator is buried in and becomes a part of the substrate (See column 12, lines 43-45).

Claims 19 and 36 specify that the securing means is an adhesive or silicon. In contrast, Furuya et al. teach sintering the glass ceramic substrate 31 at 900 degrees centigrade so that the glass ceramic substrate 31 will shrink and the dielectric parts 32 will be buried in the substrate 31 (column 12, lines 40-56). Furuya et al. do not teach a securing means that is an adhesive or silicon.

Under the heading "Claim Rejections – 35 USC § 102" on page 3 of the above-identified Office Action, claims 15, 16, 18, 20, 22, 24, 28, 30-33, 35, 37, 39, 41, 45, and 47-49 have been rejected as being fully anticipated by U.S. Patent No. 6,480,078 B2 to Kim et al. under 35 U.S.C. § 102.

Kim et al. teach a multi-layer integrated circuit that includes a semiconductor substrate made of GaAs (See column 1, lines 28-32 and column 2, lines 20-24).

Claims 15 and 32 include a printed circuit board. Claim 15 additionally specifies that the printed circuit board is formed with a recess holding the resonator. Kim et al. do not teach a printed circuit board, but rather teach an integrated circuit including a semiconductor substrate.

Claim 32 additionally specifies that a retention area or a cover spaces the resonator away from the printed circuit board and away from the contacting structure. Kim et al. do not teach such features. Kim et al. do not teach anything that spaces the resonator away from the dielectric resonator substrate 102b (which substrate the Examiner has attempted to equate with the printed circuit board defined in claim 15), and specifically do not teach a cover or retention area that provides such spacing. In contrast, Kim et al. teach that the dielectric resonator substrate 102b, which contains the dielectric resonator 102a, is formed on the dielectric supporting substrate 100 (see column 3, lines 41-43, and Figs. 2, 6a and 6b).

Under the heading "Claim Rejections – 35 USC § 103" on page 5 of the above-identified Office Action, claims 25-27, 29, 42-44, and 46 have been rejected as being obvious over U.S. Patent No. 6,480,078 B2 to Kim et al. under 35 U.S.C. § 103.

The invention as defined by claims 25-27, 29, 42-44, and 46 would not have been obvious for the reasons given above with regard to claims 15 and 32 and the teaching in Kim et al.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claims 15 or 32. Claims 15 and 32 are, therefore, believed to be patentable over the art.

The dependent claims are believed to be patentable as well because they all are ultimately dependent on claim 15 or 32.

Finally, applicant appreciatively acknowledges the Examiner's statement that claims 17, 21, 23, 38, and 40 "would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims." In light of the above, applicants respectfully believe that rewriting of claims 17, 21, 23, 38, and 40 is unnecessary at this time.

In view of the foregoing, reconsideration and allowance of claims 15-50 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate receiving a telephone call so that, if possible, patentable language can be worked out.

Please charge any fees that might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner Greenberg Sterner LLP, No. 12-1099.

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Respectfully submitted,

/Werner H. Stemer/
Werner H. Stemer
(Reg. No. 34,956)

MPW:cgm

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Lerner Greenberg Stemer LLP
P.O. Box 2480
Hollywood, Florida 33022-2480
Tel.: (954) 925-1100
Fax: (954) 925-1101